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SEQUENCE LISTING

<110> Lyon, Jeffrey A.
 Angov, Evelina
 Cohen, Joe D.
 Voss, Gerald

<120> Recombinant *P. falciparum* Merozoite Protein-1₄₂ Vaccine

<130> 003/238/SAP

<140> US 10/057,532

<141> 2002-01-25

<150> US 60/264,535, US 60/347,564

<151> 2001-01-26, 2001-10-26

<160> 12

<170> Apple Macintosh Microsoft Word 6.0

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<212> PRT

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Pro	Ile	Leu	Asp	Glu	Ile	Ala	Asp	Glu	Tyr		
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Val	Ile	Tyr	Leu	Lys	Pro	Leu	Ala	Gly	Val
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Lys	Ser	Tyr	Lys	Tyr	Ile	Lys	Glu	Ser	Val
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Glu	Asn	Asp	Ile	Lys	Phe	Ala	Gln	Glu	Gly
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	375		380
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Phe Lys Asn Pro	Tyr Asp Phe Glu Ala Ile		
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Lys Lys Leu Ile	Asn Asp Asp Thr Lys Lys		
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Ser Lys Leu Ile	Glu Gly Lys Phe Gln Asp		
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Asp Lys Cys Val	Glu Asn Pro Asn Pro Thr		
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Asp	Asp	Lys	Ala	Met	Ala	Asp	Ile	Gly	Ser	45	50	
Ile	Glu	Gly	Arg	Gly	Thr	Met	Ala	Ile	Ser	55	60	
Val	Thr	Met	Asp	Asn	Ile	Leu	Ser	Gly	Phe	65	70	
Glu	Asn	Glu	Tyr	Asp	Val	Ile	Tyr	Leu	Lys	75	80	
Pro	Leu	Ala	Gly	Val	Tyr	Arg	Ser	Leu	Lys	85	90	
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Arg	Leu	Lys	Lys	Arg	Lys	Tyr	Phe	Leu	Asp	115	120	
Val	Leu	Glu	Ser	Asp	Leu	Met	Gln	Phe	Lys	125	130	
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Asp	Ser	Phe	Lys	Leu	Leu	Asn	Ser	Glu	Gln	155	160	
Lys	Asn	Thr	Leu	Leu	Lys	Ser	Tyr	Lys	Tyr	165	170	
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Phe	Ala	Gln	Glu	Gly	Ile	Ser	Tyr	Tyr	Glu	185	190	
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Glu	Ser	Ile	Lys	Lys	Val	Ile	Lys	Glu	Glu	205	210	
Lys	Glu	Lys	Phe	Pro	Ser	Ser	Pro	Pro	Thr	215	220	
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Gln	Lys	Lys	Glu	Ser	Lys	Phe	Leu	Pro	Phe	235		

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Leu Val Asn Lys	Ile Asp Asp Tyr Leu Ile	255	250
Asn Leu Lys Ala	Lys Ile Asn Asp Cys Asn	265	260
Val Glu Lys Asp	Glu Ala His Val Lys Ile	275	270
Thr Lys Leu Ser	Asp Leu Lys Ala Ile Asp	285	280
Asp Lys Ile Asp	Leu Phe Lys Asn Pro Tyr	295	290
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Asp Asp Thr Lys	Lys Asp Met Leu Gly Lys	315	310
Leu Leu Ser Thr	Gly Leu Val Gln Asn Phe	325	320
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Gly Lys Phe Gln	Asp Met Leu Asn Ile Ser	345	340
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Glu Arg Glu Glu	Cys Lys Cys Leu Leu Asn	375	370
Tyr Lys Gln Glu	Gly Asp Lys Cys Val Glu	385	380
Asn Pro Asn Pro	Thr Cys Asn Glu Asn Asn	395	390
Gly Gly Cys Asp	Ala Asp Ala Thr Cys Thr	405	400
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Tyr	Glu	Lys	Val	Leu	Ala	Lys	Tyr	Lys	Asp	145	150	
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Glu	Glu	Lys	Glu	Lys	Phe	Pro	Ser	Ser	Pro	165	170	
Pro	Thr	Thr	Pro	Pro	Ser	Pro	Ala	Lys	Thr	175	180	
Asp	Glu	Gln	Lys	Lys	Glu	Ser	Lys	Phe	Leu	185	190	
Pro	Phe	Leu	Thr	Asn	Ile	Glu	Thr	Leu	Tyr	195	200	
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Leu	Ile	Asn	Leu	Lys	Ala	Lys	Ile	Asn	Asp	215	220	
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Cys Thr Glu Glu	Asp Ser Gly Ser Ser Arg	
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attagaatct	gatttaatgc	aatttaaaca	tatatcctca	240
aatgaataca	ttattgaaga	ttcatttaaa	ttattgaatt	280
cagaacaaaa	aaacacactt	ttaaaaagtt	acaaatatat	320
aaaagaatca	gtagaaaatg	atattaaatt	tgcacaggaa	360
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agttaataaaa attgacgatt acttaattaa cttaaaggca 600
aagattaacg attgtaatgt tgaaaaagat gaagcacatg 640
ttaaaataac taaacttagt gattttaaag caattgatga 680
caaaatagat ctttttaaaa accctaccga cttcgaagca 720
attaaaaaat tgataaatga tgatacgaaa aaagatatgc 760
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taatacaata atatcaaaat taattgaagg aaaattccaa 840
gatatgttaa acatttcaca acaccaatgc gtaaaaaaac 880
aatgtccaga aaattctgga tgtttcagac atttagatga 920
aagagaagaa tgtaaatggt tattaaatta caaacaagaa 960
ggtgataaat gtgttgaaaa tccaaatcct acttgtaacg 1000
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          45          50
Thr Phe Asn Leu Asn Leu Asn Asp Ile Leu
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Asn Ser Arg Leu Lys Lys Arg Lys Tyr Phe
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Leu Asp Val Leu Glu Ser Asp Leu Met Gln
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Phe Lys His Ile Ser Ser Asn Glu Tyr Ile
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Ile Glu Asp Ser Phe Lys Leu Leu Asn Ser
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Pro	Thr	Thr	Pro	Pro	Ser	Pro	Ala	Lys	Thr
				165					170
Asp	Glu	Gln	Lys	Lys	Glu	Ser	Lys	Phe	Leu
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Pro	Phe	Leu	Thr	Asn	Ile	Glu	Thr	Leu	Tyr
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Asn	Asn	Leu	Val	Asn	Lys	Ile	Asp	Asp	Tyr
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Leu	Ile	Asn	Leu	Lys	Ala	Lys	Ile	Asn	Asp
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Cys	Asn	Val	Glu	Lys	Asp	Glu	Ala	His	Val
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Lys	Ile	Thr	Lys	Leu	Ser	Asp	Leu	Lys	Ala
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Ile	Asp	Asp	Lys	Ile	Asp	Leu	Phe	Lys	Asn
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Pro	Thr	Asp	Phe	Glu	Ala	Ile	Lys	Lys	Leu
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Ile	Asn	Asp	Asp	Thr	Lys	Lys	Asp	Met	Leu
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Ile	Phe	Pro	Asn	Thr	Ile	Ile	Ser	Lys	Leu
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Ile	Ser	Gln	His	Gln	Cys	Val	Lys	Lys	Gln
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Cys	Pro	Glu	Asn	Ser	Gly	Cys	Phe	Arg	His
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Leu	Asp	Glu	Arg	Glu	Glu	Cys	Lys	Cys	Leu
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Leu	Asn	Tyr	Lys	Gln	Glu	Gly	Asp	Lys	Cys
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Val	Glu	Asn	Pro	Asn	Pro	Thr	Cys	Asn	Glu
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Asn	Asn	Gly	Gly	Cys	Asp	Ala	Asp	Ala	Thr
				345					350
Cys	Thr	Glu	Glu	Asp	Ser	Gly	Ser	Ser	Arg
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Lys	Lys	Ile	Thr	Cys	Glu	Cys	Thr	Lys	Pro
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10/14

<210> 6

<211> 1176

<212> DNA

<213> Artificial sequence

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<223> *E. coli* expressed *P. falciparum* MSP-1₄₂ (3D7)

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caaatgaata cattattgaa gattcattta aattattgaa 320
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caccagcaaa aacagacgaa caaaagaagg aaagtaagtt 560
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cctaatacaa taatatcaaa attaattgaa ggaaaattcc 880
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<211> 391

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Val	Thr	Met	Asp	Asn	Ile	Leu	Ser	Gly	Phe	
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Glu	Asn	Glu	Tyr	Asp	Val	Ile	Tyr	Leu	Lys	
				35					40	
Pro	Leu	Ala	Gly	Val	Tyr	Arg	Ser	Leu	Lys	
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Lys	Gln	Ile	Glu	Lys	Asn	Ile	Phe	Thr	Phe	
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Asn	Leu	Asn	Leu	Asn	Asp	Ile	Leu	Asn	Ser	
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Arg	Leu	Lys	Lys	Arg	Lys	Tyr	Phe	Leu	Asp	
				75					80	
Val	Leu	Glu	Ser	Asp	Leu	Met	Gln	Phe	Lys	
				85					90	
His	Ile	Ser	Ser	Asn	Glu	Tyr	Ile	Ile	Glu	
				95					100	
Asp	Ser	Phe	Lys	Leu	Leu	Asn	Ser	Glu	Gln	
				105					110	
Lys	Asn	Thr	Leu	Leu	Lys	Ser	Tyr	Lys	Tyr	
				115					120	
Ile	Lys	Glu	Ser	Val	Glu	Asn	Asp	Ile	Lys	
				125					130	
Phe	Ala	Gln	Glu	Gly	Ile	Ser	Tyr	Tyr	Glu	
				135					140	
Lys	Val	Leu	Ala	Lys	Tyr	Lys	Asp	Asp	Leu	
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Glu	Ser	Ile	Lys	Lys	Val	Ile	Lys	Glu	Glu	
				155					160	
Lys	Glu	Lys	Phe	Pro	Ser	Ser	Pro	Pro	Thr	
				165					170	
Thr	Pro	Pro	Ser	Pro	Ala	Lys	Thr	Asp	Glu	
				175					180	
Gln	Lys	Lys	Glu	Ser	Lys	Phe	Leu	Pro	Phe	
				185					190	
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Leu	Val	Asn	Lys	Ile	Asp	Asp	Tyr	Leu	Ile	
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Asn	Leu	Lys	Ala	Lys	Ile	Asn	Asp	Cys	Asn	
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Val	Glu	Lys	Asp	Glu	Ala	His	Val	Lys	Ile	
				225					230	
Thr	Lys	Leu	Ser	Asp	Leu	Lys	Ala	Ile	Asp	
				235					240	
Asp	Lys	Ile	Asp	Leu	Phe	Lys	Asn	Pro	Tyr	
				245					250	

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Asp	Phe	Glu	Ala	Ile	Lys	Lys	Leu	Ile	Asn
				255					260
Asp	Asp	Thr	Lys	Lys	Asp	Met	Leu	Gly	Lys
				265					270
Leu	Leu	Ser	Thr	Gly	Leu	Val	Gln	Asn	Phe
				275					280
Pro	Asn	Thr	Ile	Ile	Ser	Lys	Leu	Ile	Glu
				285					290
Gly	Lys	Phe	Gln	Asp	Met	Leu	Asn	Ile	Ser
				295					300
Gln	His	Gln	Cys	Val	Lys	Lys	Gln	Cys	Pro
				305					310
Glu	Asn	Ser	Gly	Cys	Phe	Arg	His	Leu	Asp
				315					320
Glu	Arg	Glu	Glu	Cys	Lys	Cys	Leu	Leu	Asn
				325					330
Tyr	Lys	Gln	Glu	Gly	Asp	Lys	Cys	Val	Glu
				335					340
Asn	Pro	Asn	Pro	Thr	Cys	Asn	Glu	Asn	Asn
				345					350
Gly	Gly	Cys	Asp	Ala	Asp	Ala	Thr	Cys	Thr
				355					360
Glu	Glu	Asp	Ser	Gly	Ser	Ser	Arg	Lys	Lys
				365					370
Ile	Thr	Cys	Glu	Cys	Thr	Lys	Pro	Asp	Ser
				375					380
Tyr	Pro	Leu	Phe	Asp	Gly	Ile	Phe	Cys	Ser
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Ser

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<213> Artificial sequence

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<223> CpG oligonucleotide

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24

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<212> DNA

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cacaatgg 48

<210> 10

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gtcgacttag gaactgcaga aaataccgg 29

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ccgac 45

<210> 12

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<213> Artificial sequence

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<220>

<223> PCR primer

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gggcatatgg	cacaccatca	tcatcatcat	cccgggggat	40
ccggttctgg	taccgac			57